SPOUT RUN BRIDGE, WESTBOUND
George Washington Memorial Parkway, spanning Spout Run
Arlington Vicinity
Arlington County
Virginia

HAER No. VA-86

HAER
VA
7-ARL.V,
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WRITTEN HISTORICAL AND DESCRIPTIVE DATA

PHOTOGRAPHS

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
Department of the Interior
Washington, D.C. 20013-7127

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1. INTRODUCTION

Location:	George Washington Memorial Parkway milepost 0.9, 0.9 miles from Interstate 66, carries westbound Spout Run Parkway over Spout Run, a tributary of the Potomac River in Arlington, Virginia.
FHwA Structure No.:	3300-029P.
Date of Construction:	1949.
Type:	Reinforced concrete rigid frame arch bridge.
Designer:	Public Roads Administration engineers with approval from the National Park Service (NPS).
Present Owner:	National Capital Region, National Park Service.
Present Use:	Carries non-commercial westbound traffic over Spout Run towards Route 66 and Route 29.
Significance:	Built as part of the George Washington Memorial Parkway.
Project Information:	Documentation of the George Washington Memorial Parkway and Clara Barton Parkway was undertaken as a multi-year project by the Historic American Buildings Survey and the Historic American Engineering Record (HABS/HAER), a combined division of the National Park Service, Robert Kapsch, Chief. The project was sponsored by the Park Roads Program of the National Park Service, John Gingles, Deputy Chief, Engineering and Safety Services Division. The Project Supervisor was Sara Amy Leach, HABS Historian. Bridge reports were prepared by Elizabeth M. Nolin (1988); Michael P. Kucher (University of Delaware, 1993); and Jennifer P. Wentzien (University of Washington, 1994). HABS Report No. VA-69 prepared by Timothy Davis (University of Texas) provides an overview history of the entire parkway project. Jack E. Boucher and Jet Lowe produced the large-format photographs. The Washington-based summer 1994 documentation team was headed by landscape architect Tim Mackey (Harvard University, Graduate School of Design).

II. HISTORY

The Spout Run Bridge Westbound is the first of three bridges built along the George Washington Memorial Parkway (GWMP) in the vicinity of the opening of Spout Run into the Potomac River. The bridge is located immediately below the dramatic High Level Spout Run Bridge (HAER No. VA-79). Just downstream is the Lower Level Spout Run Bridge (HAER No. VA-80). The bridge was the northern terminus of the GWMP from its completion in 1949 until 1959 when the parkway extension to Langley, Virginia was completed. Spout Run was redirected as part of the construction of the bridge.

The bridge is designed as a rigid frame arch type structure. The rigid frame arch is a structural design developed by Arthur Hayden in the 1920s and used extensively by the Westchester Park and Parkway system. The continuous structure type, to which the rigid frame belongs, offers the advantages of economy and greater aesthetic freedom over the traditional separation of footing, abutment, wing wall and span. A simplified method for the analysis of a skewed frame appears in the 1950 edition of Hayden's The Rigid Frame Bridge. Gilmore Clarke brought the design to the design of two GWMP bridges of the 1930s, the South End Highway Bridge and the Wellington Underpass. The skew at the 1949 Spout Run bridge allows the roadway and the river to follow a continuous curvature, an important feature of parkway design. The reinforced concrete is stone-faced in the manner of earlier parkway bridges designed by Gilmore Clarke, including the use of a locally quarried mica schist. William Haussmann is cited as the architectural designer.[1]

Description

The Spout Run Bridge Westbound is reinforced concrete skewed rigid frame arch. The frame spans 28'-10" and is skewed at 45 degrees. The arch is on a 20'-11" radius and rises 5'-6" above its spring line. The arched frame is 15" thick at midspan. The wing walls and the frame are supported on continuous spread footings of the counterfort type (stepped). Concrete was specified as Class "AA". The roadway is comprised of two 12' lanes with additional 6' shoulders and 18" wide masonry parapets. The overall width is 39'. The wing walls are faced with a native mica schist with granite copings and ringstones. There is a parabolic camber to the top of the parapet.

The project used "Specifications for Construction of Roads and Bridges in National Forest and National Parks, Revised July 15, 1941" by the Public Roads Administration. Design specifications were the "Standard Specifications for Highway Bridges, AASHO-1944." The standard H20-44 design load was used.

Alterations

In the summer of 1994 the guardwall was being rebuilt and extended using native mica schist stone with granite copings.

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[1]U.S. Department of the Interior, National Park Service, National Capital Parks, Planning Division, "Bridge over Spout Run," Sheet 6 of 7, 1947. Plans prepared by Public Roads Administration, Federal Works Agency, Arlington, Virginia, December, 1947.

III. SOURCES

Federal Works Agency, Public Roads Administration. "Final Construction Report, George Washington Memorial Parkway, Project 6A15." 1949. Unable to locate this report at the remote storage facility of the Eastern Federal Lands Division, Federal Highway Administration, Sterling, VA.

Federal Works Agency, Public Roads Administration. Plans for Proposed Project 6A15. Microfiche reductions of original construction drawings on file at National Capital Region Park Headquarters, National Park Service, Washington D.C.

Hayden, Arthur G. The Rigid Frame Arch. John Wiley and Sons, Inc., NY. 1931; 2nd edition, 1940; 3rd edition with Maurice Barron, 1950.

U.S. Department of the Interior, National Park Service. "Structure Inventory and Appraisal Sheet - Structure No. 3300-029P." 4/21/93.

U.S. Department of the Interior, Historic American Buildings Survey (HABS), No. VA-69, "George Washington Memorial Parkway," 1994. Prints and Photographs Division, Library of Congress, Washington D.C.